Amendments to the Claims:

Following is a complete listing of the claims pending in the application, as amended:

1. (Cancelled)

2. (Currently Amended) A method of transmitting a signal of the type comprising a sequence of symbols over spaced antennas, or antennas of different polarization, to reduce fading and intersymbol interference, comprising the steps of:

dividing a transmission frame into first and second blocks;

processing the sequence of symbols to generate first, second, third, and fourth symbol sequences so that some of the symbols in at least one of the symbol sequences are time-reversed, some of the symbols in at least one of the symbol sequences are complex conjugated, and some of the symbols in at least one of the symbol sequences are negated, ~~the third symbol sequence corresponding to the first symbol sequence and the fourth symbol sequence corresponding to the second symbol sequence~~ processing of the first symbol sequence comprises time reversing and complex conjugating the first symbol sequence to generate the third symbol sequence, and processing of the second symbol sequence comprises time reversing, complex conjugating and negating the second symbol sequence to generate the fourth symbol sequence, and;

during the first block of the transmission frame, applying the first symbol sequence to a first antenna and the second symbol sequence to a second antenna and during the second block of the transmission frame applying the fourth symbol sequence to the first antenna and the third symbol sequence to the second antenna.

3. (Previously Presented) The method of Claim 2 wherein processing the sequence of symbols comprises dividing the sequence of symbols to obtain the first and the second symbol sequences, processing the first symbol sequence to obtain the third symbol sequence, and processing the second symbol sequence to obtain the fourth symbol sequence.

4. (Currently Amended) A transmitter for transmitting signals of the type comprising a sequence of symbols over spaced antennas, or antennas of different polarization, to reduce fading while handling intersymbol interference efficiently, comprising:

a processor for processing the sequence of symbols to generate first, second, third, and fourth symbol sequences so that some of the symbols in at least one of the symbol sequences are time-reversed, some of the symbols in at least one of the symbol sequences are complex

conjugated, some of the symbols in at least one of the symbol sequences are negated, ~~the third sequence corresponding to the first sequence and the fourth sequence corresponding to the second sequence~~ processing of the first symbol sequence comprises time reversing and complex conjugating the first symbol sequence to generate the third symbol sequence, and processing of the second symbol sequence comprises time reversing, complex conjugating and negating the second symbol sequence to generate the fourth symbol sequence, and;

means for applying during a first block of a transmission frame the first symbol sequence to a first antenna and the second symbol sequence to a second antenna and during a second block in the transmission frame the fourth symbol sequence to the first antenna and the third symbol sequence to the first antenna.

5. (Currently Amended) A method of transmitting a signal of the type comprising a sequence of symbols over spaced antennas, or antennas of different polarization, to reduce fading and intersymbol interference, comprising the steps of:

dividing a transmission frame into first and second blocks;

processing the sequence of symbols to generate first, second, third, and fourth symbol sequences so that some of the symbols in at least one of the symbol sequences are time-reversed, some of the symbols in at least one of the symbol sequences are complex conjugated, and some of the symbols in at least one of the symbol sequences are negated, the third symbol sequence corresponding to the first symbol sequence and the fourth symbol sequence corresponding to the second symbol sequence; and

during the first block of the transmission frame, applying the first symbol sequence to a first antenna and the second symbol sequence to a second antenna and during the second block of the transmission frame applying the fourth symbol sequence to the first antenna and the third symbol sequence to the second antenna;

the processing of the sequence of symbols further comprises dividing the sequence of symbols to obtain the first and the second symbol sequences, processing the first symbol sequence to obtain the third symbol sequence, and processing the second symbol sequence to obtain the fourth symbol sequence;

~~The method of Claim 3 wherein:~~

the processing of the second symbol sequence comprises time reversing, complex conjugating and negating the second symbol sequence to generate the fourth symbol sequence; and

the processing of the first symbol sequence comprises time reversing and complex conjugating the first symbol sequence to generate the third symbol sequence.

6. (Currently Amended) A method of transmitting a signal of the type comprising a sequence of symbols over spaced antennas, or antennas of different polarization, to reduce fading and intersymbol interference, comprising the steps of:

dividing a transmission frame into first and second blocks;

processing the sequence of symbols to generate first, second, third, and fourth symbol sequences so that some of the symbols in at least one of the symbol sequences are time-reversed, some of the symbols in at least one of the symbol sequences are complex conjugated, and some of the symbols in at least one of the symbol sequences are negated, the third symbol sequence corresponding to the first symbol sequence and the fourth symbol sequence corresponding to the second symbol sequence; and

during the first block of the transmission frame, applying the first symbol sequence to a first antenna and the second symbol sequence to a second antenna and during the second block of the transmission frame applying the fourth symbol sequence to the first antenna and the third symbol sequence to the second antenna;

the processing of the sequence of symbols further comprises dividing the sequence of symbols to obtain the first and the second symbol sequences, processing the first symbol sequence to obtain the third symbol sequence, and processing the second symbol sequence to obtain the fourth symbol sequence;

~~The method of Claim 3 wherein the step of~~

the dividing of the sequence of symbols further comprises ~~the step of~~ assigning symbols to the first symbol sequence and to the second symbol sequence such that there is an equal amount of symbols in each of the first and second symbol sequences and that correlation between symbols close to each other in each of the first and second symbol sequences is not significantly effected.

7. (Previously Presented) The method of Claim 6 wherein the step of dividing the sequence of symbols further comprises the step of assigning at least one training symbol, which is a non-data part of the signal, to each of the first and the second symbol sequences.

8. (Previously Presented) The method of Claim 7 wherein the step of assigning at least one training symbol to each of the first and the second symbol sequences further comprises the step of assigning a number of training symbols equal to an anticipated delay spread to each of a beginning and an end of each of the first and the second symbol sequences.

9. (Previously Presented) The method of Claim 5 wherein the first and second antennas are replaced by respectively ones of a first and a second groups of antennas, each group comprising a plurality of antennas that are spaced from each other, or differently polarized with respect to each other, wherein the step of applying the first symbol sequence to the first antenna and the second symbol sequence to the second antenna during the first transmission block is replaced by the step of transmitting the first symbol sequence from the first group of antennas during the first transmission block using a delay diversity technique and transmitting the second

symbol sequence from the second group of antennas during the first transmission block using a delay diversity technique; and

wherein the step of applying the fourth symbol sequence to the first antenna during the second transmission block and applying the third symbol sequence to the second antenna is replaced by the step of transmitting from the first group of antennas using a delay diversity technique during the second transmission block the fourth symbol sequence, and transmitting from the second group of antennas using a delay diversity technique the third symbol sequence.

10. (Previously Presented) The method of Claim 9 wherein the first and the second groups of antennas are spaced away from each other or have different polarizations with respect to each other.

Claims 11 - 14. (Cancelled)

15. (Previously Presented) A system for transmitting data while reducing the effects of fading and handling intersymbol interference efficiently comprising:

a first antenna and a second antenna; and

an encoder coupled to the first and second antennas and adapted to divide a signal into a first and a second symbol stream, each symbol stream having a plurality of symbols, the encoder adapted to transmit the first symbol stream through the first antenna during a first block of a transmission frame, to transmit the second symbol stream through the second antenna during the first block of the transmission frame, to transmit through the second antenna a time reversed and

complex conjugate form of the first symbol stream during a second block of the transmission frame, and to transmit through the first antenna a time reversed, complex conjugate and negated form of the second symbol stream during the second block of the transmission frame.

16. (Previously Presented) The system of Claim 15 wherein each symbol has a symbol value and the encoder is further adapted to assign the symbols of the signal to each of the first symbol stream and the second symbol stream such that there is an equal amount of symbols in each of the first and second symbol streams .

17. (Previously Presented) The system of Claim 15 wherein the encoder is further adapted to assign at least one training symbol, which is a non-data part of the signal, to each of the first and second symbol streams.

18. (Previously Presented) The system of Claim 15 wherein the encoder is further adapted to assign a number of training symbols, which is a non-data part of the signal, equal to a delay spread to each of a beginning and an end of each of the first and the second symbol streams.

19. (Previously Presented) A system for transmitting data while reducing the effects of fading and handling intersymbol interference effectively comprising:

a first antenna group and a second antenna group, each group comprising a plurality of antennas; and

an encoder coupled to the first and second antenna groups and adapted to divide a signal into a first and a second symbol streams, each symbol stream having a plurality of symbols, the encoder adapted to transmit the first symbol stream through the first antenna group using a delay diversity technique during a first block of a frame, to transmit the second symbol stream through the second antenna group using a delay diversity technique during the first block of the frame, to transmit through the second antenna group a time reversed and complex conjugate form of the first symbol stream during a second block of the frame, and to transmit through the first antenna group a time reversed, complex conjugate and negated form of the second symbol stream during the second block of the frame.

20. (Original) The system in Claim 19 wherein the antennas within each group are spaced apart from one another.

21. (Cancelled)

22. (Previously Presented) The system in Claim 20 further comprises:

a first and a second antenna within the first antenna group; and

the encoder is further adapted to use a delay diversity technique wherein the first symbol stream is transmitted from the first antenna and after a delay period the first symbol stream is transmitted from the second antenna.

23. (Previously Presented) The system of Claim 19 wherein each symbol has a symbol value and the encoder is further adapted to assign the symbols of the signal to each of the first symbol stream and the second symbol stream such that there is an equal amount of symbols in each of the first and second symbol streams .

24. (Original) The system of Claim 23 wherein the encoder is further adapted to assign at least one training symbol, which is a non-data part of the signal, to each of the first and second symbol streams.

25. (Previously Presented) The system of Claim 24 wherein the encoder is further adapted to assign a number of training symbols, which is a non-data part of the signal, equal to an anticipated delay spread to each of a beginning and an end of each of the first and the second symbol streams.

26. (Cancelled)

27. (Original) The system in Claim 19 wherein the antennas within each group have polarizations different from one another.

Claims 28- 36. (Cancelled)

37. (Previously Amended) A method of transmitting a signal having a sequence of symbols through at least one channel with intersymbol interference, comprising the steps of:

dividing the sequence of symbols to form a plurality of symbol streams, wherein dividing the sequence of symbols comprises assigning symbols in the sequence of symbols to a first symbol stream and a second symbol stream such that there is an equal amount of symbols in each of the

first and second symbol streams and that correlation between symbols close to each other in each of the first and second symbol streams is not significantly effected; and

processing the plurality of symbol streams before transmitting each symbol stream through a channel, wherein processing the plurality of symbol streams comprises time-reversing at least one of the symbol streams before transmitting the at least one of the processed symbol streams.

Claims 38-43. (Cancelled)

44. (New) A transmitter for transmitting signals of the type comprising a sequence of symbols over spaced antennas, or antennas of different polarization, to reduce fading while handling intersymbol interference efficiently, comprising:

a processor for processing the sequence of symbols (i) to generate first, second, third, and fourth symbol sequences so that some of the symbols in at least one of the symbol sequences are time-reversed, some of the symbols in at least one of the symbol sequences are complex conjugated, some of the symbols in at least one of the symbol sequences are negated, the third sequence corresponding to the first sequence and the fourth sequence corresponding to the second sequence; (ii) to divide the sequence of symbols to obtain the first and the second symbol sequences, and for processing the first symbol sequence to obtain the third symbol sequence, and for processing the second symbol sequence to obtain the fourth symbol sequence; and (iii) for processing the second symbol sequence including time reversing, complex conjugating and negating the second symbol sequence to generate the fourth symbol sequence, and for processing the first symbol sequence including time reversing and complex conjugating the first symbol sequence to generate the third symbol sequence; and

means for applying during a first block of a transmission frame the first symbol sequence to a first antenna and the second symbol sequence to a second antenna and during a second block in the transmission frame the fourth symbol sequence to the first antenna and the third symbol sequence to the first antenna.

45. (New) A transmitter for transmitting signals of the type comprising a sequence of symbols over spaced antennas, or antennas of different polarization, to reduce fading while handling intersymbol interference efficiently, comprising:

a processor for processing the sequence of symbols (i) to generate first, second, third, and fourth symbol sequences so that some of the symbols in at least one of the symbol sequences are time-reversed, some of the symbols in at least one of the symbol sequences are complex

conjugated, some of the symbols in at least one of the symbol sequences are negated, the third sequence corresponding to the first sequence and the fourth sequence corresponding to the second sequence; (ii) to divide the sequence of symbols to obtain the first and the second symbol sequences, and for processing the first symbol sequence to obtain the third symbol sequence, and for processing the second symbol sequence to obtain the fourth symbol sequence; and the dividing of the sequence of symbols further includes assigning symbols to the first symbol sequence and to the second symbol sequence such that there is an equal amount of symbols in each of the first and second symbol sequences and that correlation between symbols close to each other in each of the first and second symbol sequences is not significantly effected; and

means for applying during a first block of a transmission frame the first symbol sequence to a first antenna and the second symbol sequence to a second antenna and during a second block in the transmission frame the fourth symbol sequence to the first antenna and the third symbol sequence to the first antenna.